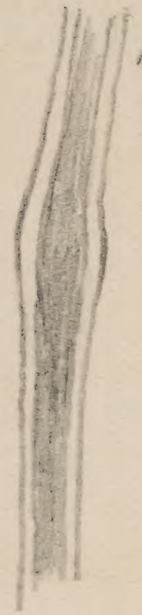
Vitis vulpina

no dissepiment!

April 79



Maryland
Canby

old branch
from my
Garden.

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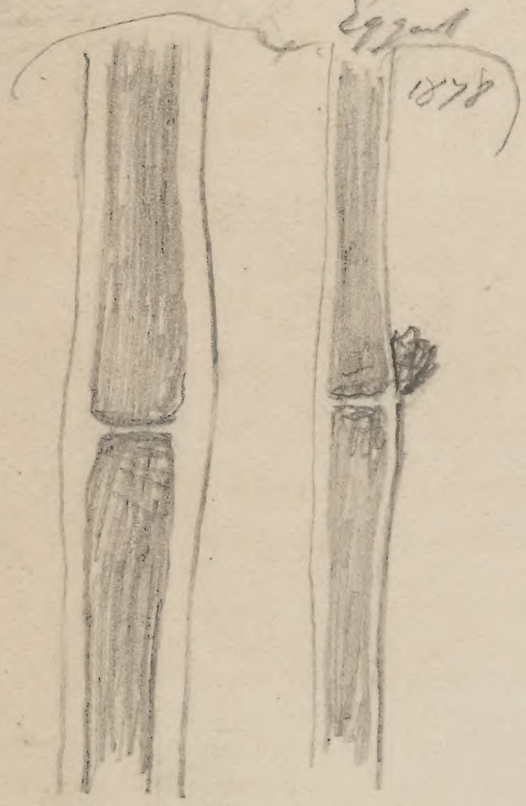
Vitis cordifolia

April 24 1879

Egypt 1878

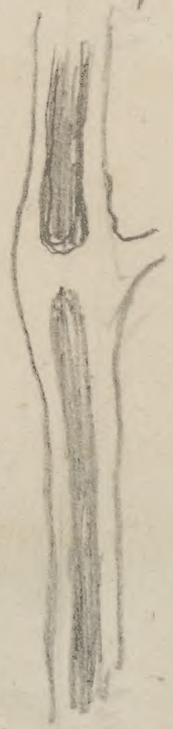


pith much larger than wood-ring. These two must belong to riparia! named by mistake, cordifolia!

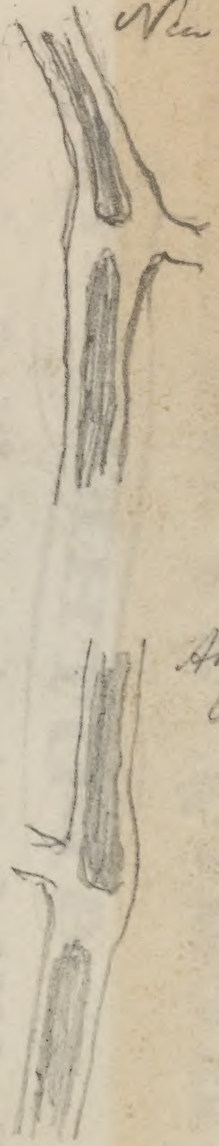
Mt Carmel Schneck 1877

Egypt, Bluff Lake Forest Park? Ill.

Peck, Washington DC



J. Engle New York 1840



J.E America Botta 1856

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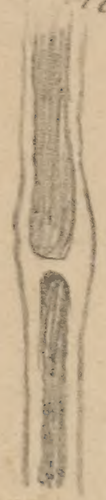
Vitis rupestris

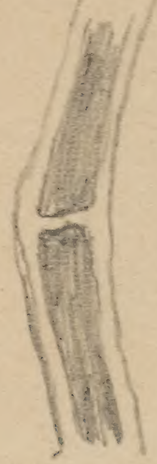
April 1879

Missouri
Geo King
1845

Missouri
Broadhead
1872



Engelmann
Lindheimer



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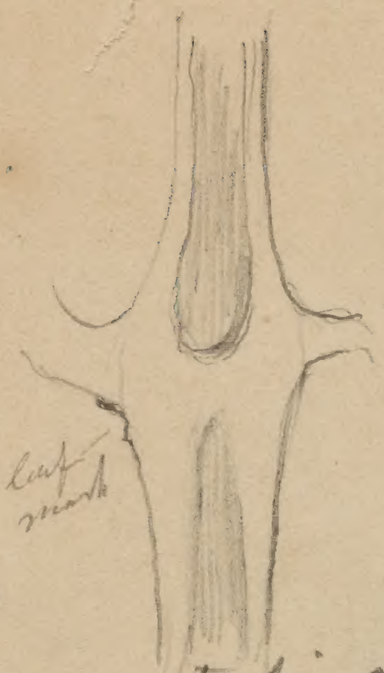
Nodes and diaphragms of Vitis aestivalis April 29' 79

aestivalis ♂
native



aestivalis ♀
native

Virginica
Seedling
from my
Garden

cinerea
Cast St Louis

"Black Spanish"
from San Antonio

Vitis Monticola Buckley
Lockhart, Texas

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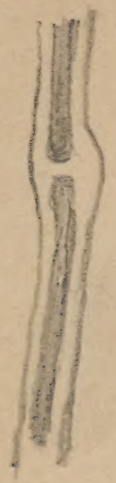
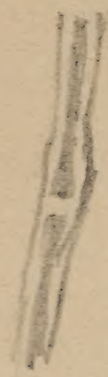
Camp Apache
Rothrock



St George
Utah
Parry



Vitis Arizonica
Arizona
Bischof

Cañon de Palomas
Arizona

April 1879

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Trifolium

Vitis vinifera

April 1879

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Vitis Californica

April 1879

Colorado

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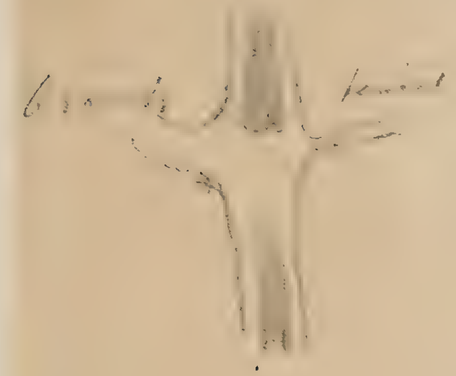
Carex cumulata

April 1879

Carex
Houghton 1842



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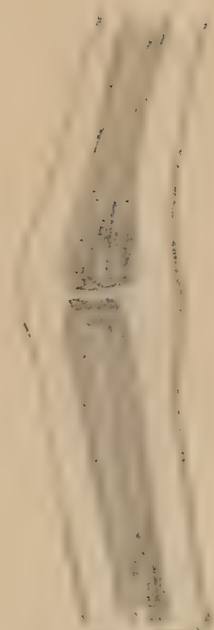

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Vitis Labrusca

April 1879

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As a general rule hail storms occur at the close of long periods of calm, hot and sultry weather. They are immediately preceded by a fall of the barometer, and what is unusual before rain, a corresponding fall of the thermometer. The thermometer, during a hail storm, has been known to sink through 77° Fahr. As a rule, hail clouds are not so high as rain clouds, while the area of hail storms frequently extends over great distances in a linear direction. Its breadth is seldom very great. Its motion is rapid, often forty miles an hour. A peculiar rustling sound in the air often precedes the fall of hail. This is accompanied by a darkness similar to a total eclipse of the sun. Hail storms are seldom of long duration. From three or four minutes to a quarter of an hour is the usual limit.

SOME FACTS IN RELATION TO THE HABITS OF THE ROUGH-WINGED SWALLOW.

(*Hirundo Serripennis.*)

In the June number of the SCIENTIFIC MONTHLY a description of this bird, together with a very good life-size plate of the male, was given. Since the appearance of the above plate and description, a very good account of its breeding habits appeared in the "Bulletin of the Nuttall Ornithological Club," by Walter Van Fleet, from which we make the following extract, as it throws some light upon the habits of this comparatively little known and obscure species. Mr. Van Fleet says:

I have, during two years of rather careful observation, noticed a constant and decided difference in the breeding and other habits of the rough-winged swallow, as compared with the bank swallow (*H. riparia*). The main points are as follows:

H. serripennis is not gregarious while nesting, but during the breeding season appears rather to avoid its kind, as well as the bank swallows, and to associate only in pairs. Their nesting holes are not placed near each other in the manner of *H. riparia*, but are scattered along the banks of creeks and rivers at irregular intervals, wherever an especially favorable locality occurs. They very seldom excavate a hole for themselves, but generally take up with any suitable cavity, and alter it to suit their taste. It is quite common to find them breeding in deserted kingfishers' holes, and in this case placing the nest within a foot or eighteen inches from the entrance. They will also, on finding a decayed root of sufficient size, leading in from their favorite sand banks, remove the soft punky wood, following the winding of the root, until they have arrived at a suitable distance—about two feet—where, after enlarging the cavity, they place their nest. This species is also fond of building in holes in stone bridge piers and other masonry, near water, returning to the same place year after year.

In the few cases which I have observed of their excavating for themselves, it has been done in a very slovenly manner, and invariably their holes have been much larger than is apparently necessary, and round at the entrance, while on the

334-A

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pounds. One weighing fourteen pounds was examined, and another large hail-stone crushed through the roof of a house. Instances of hail-stones of twelve to fourteen pounds' weight are not uncommon. In a hail storm at Jackson, La., hail-stones as large as walnuts fell in showers, pouring down in torrents and covering the ground many inches deep. Great numbers of cattle were killed. In the storm of 1801 at Mannorical bay, Asia Minor, hail-stones covered the ground two feet deep.

The shape of hail-stones varies considerably, but the usual form is a sphere, often more or less roughened upon the surface by irregular protuberances. They are sometimes elongated, flat or pyramidical in shape. One examined by Delcros was a regular sphere, composed of several concentric strata around a dense spherical neucleus, opaque and whitish. Around this neucleus was an envelope of compact ice, radiated from the center to the circumference. and terminating upon the exterior in twelve large pyramids. Between were intercalated smaller pyramids, the whole formed a spherical mass three and one-half inches in diameter. One examined in 1863 exhibited a neucleus, surrounded by a mass of ice. The polyhedric tissue, examined through a glass, had the aspect of a series of six pointed pyramids, and a section of the interior exhibited the existence of a hexagonal network of meshes. Hail-stones, when opened, generally present an outer homogeneous coating of opaque ice, or a succession of alternate layers of opaque and transparent ice enclosing a central neucleus of spongy but hardened snow. Sometimes they contain, inclosed within their substance, foreign substances, such as ashes, straw, sand, or bits of leaves.

Hail usually falls in summer, and generally in the afternoon, when the conditions most appropriate for its formation are prevalent, viz., great heat near the surface of the earth, which diminishes rapidly with increase of elevation, and which is accompanied by a considerable evaporation from the clouds under the action of the sun; as, however, the mere collision of a very cold upper wind with a very warm wind, at the same altitude, may produce hail. It occasionally falls at night or even in midwinter, but this is of rare occurrence.

The velocity of the fall of hail-stones is usually not so great as one would expect from their density, and many theories have been advanced to account for the comparatively slow motion—as the resistance occasioned by upward currents of air—or the retardation occasioned by the neucleus continually taking up in its descent accessions of vapor, which are in a state of rest. But their descent is not always slow. In a storm in India, in 1931, hail-stones ploughed up a gravel walk like musket balls, passing through glass windows, making smooth, round holes, without cracking the glass. Hail storms are almost unknown in the polar regions, and are more frequent in the temperate than in the tropical regions. Some districts are more subject to them than others. The south of France seems particularly liable to them, where, as well as in Germany, tall poles called hail rods are erected to attract and draw off the electricity which is developed in the hail clouds, and thus disarming the clouds, supposing that hail, like lightning, is the result of electricity.

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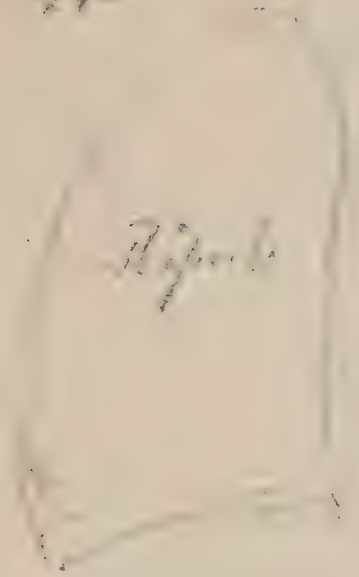

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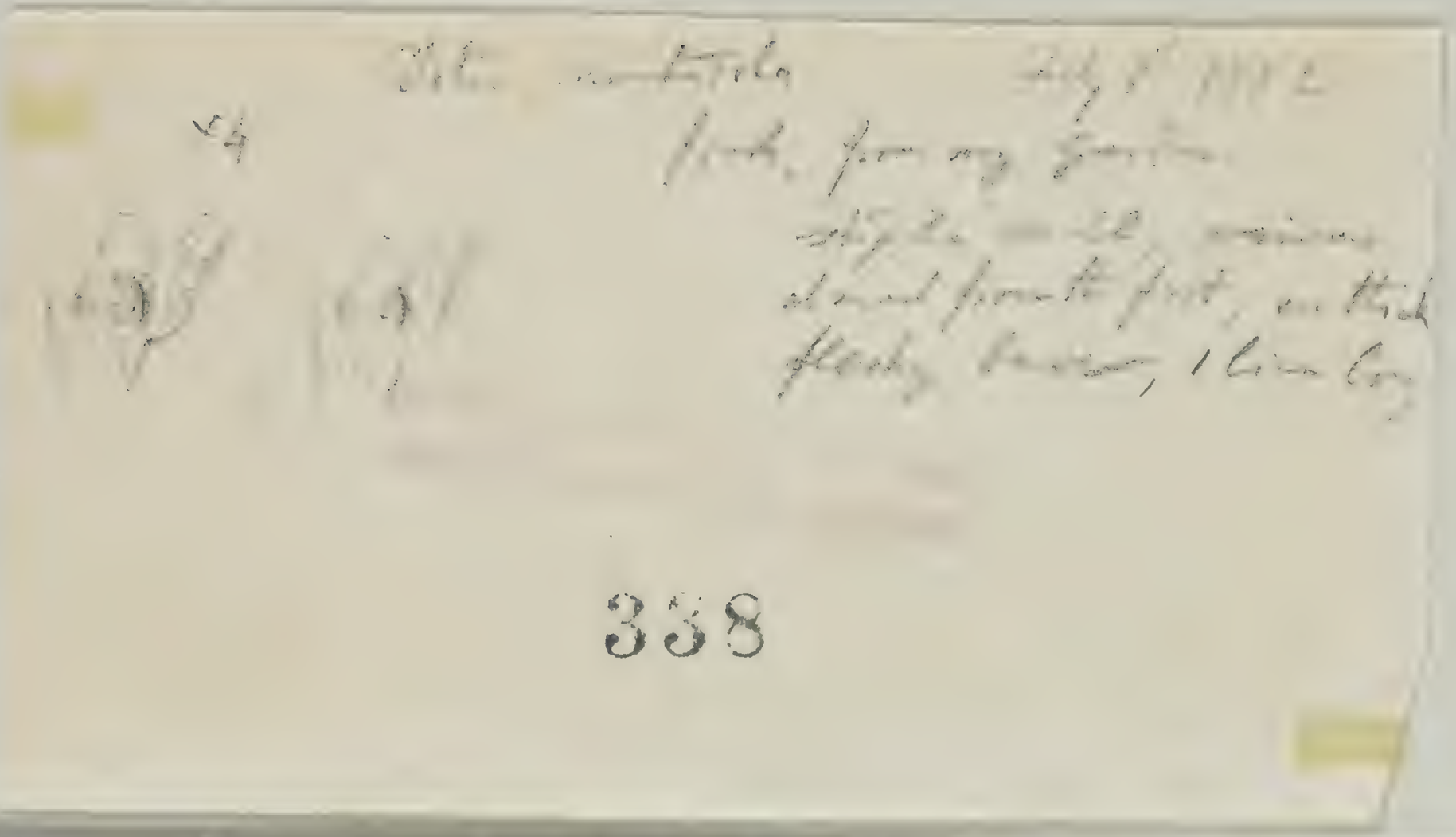

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Vitis acutifolia
young vegetative shoots
Alfred Eyles, Dec 9 1882

Dec 11 1882

339

Vitis acutifolia
(Vitis Labrusca var.)
Herb. Gray
Typical material

Vitis Labrusca
a little larger
than the type
apparently cinerea

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Lotus australis

Virginia Scrattia c. o. Gmel

et

mel Gmel = Mem

May 25 1875

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Mertens

Herbemont

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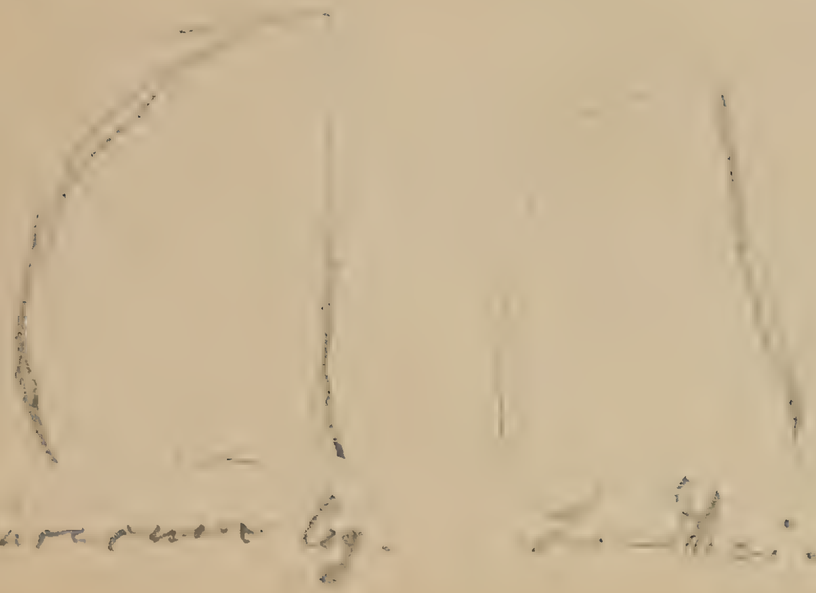
Utis arctica, may 1878

foregone - Tow to Discovery



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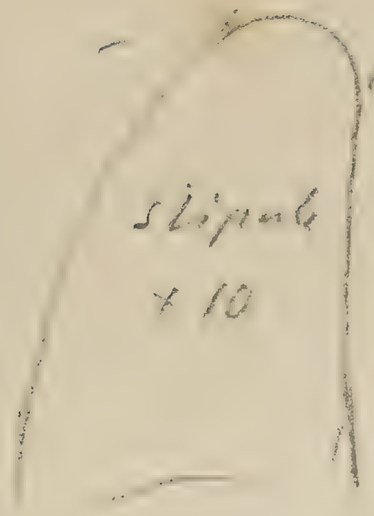
V. nivalis ?

Kyrgyzstan

Alay Range

1978



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slipsheet ×10

Vitis caesbiana

May 1928

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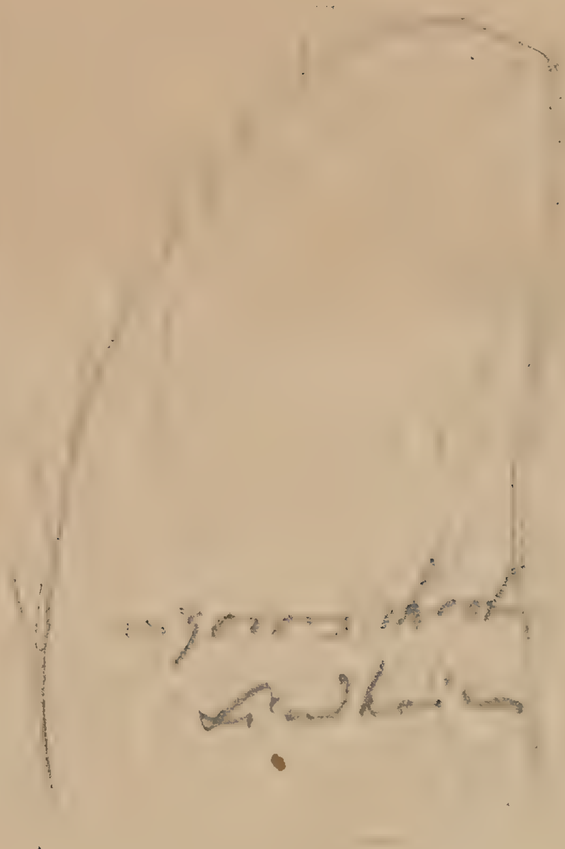
E Hall



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Voltia nigrescens

Same specimens as Taylor-Gerrit Hope

X10

Niagara Aug 1840

Stipules remain for the most part small & persistent & rarely longer than the petiole

tendril

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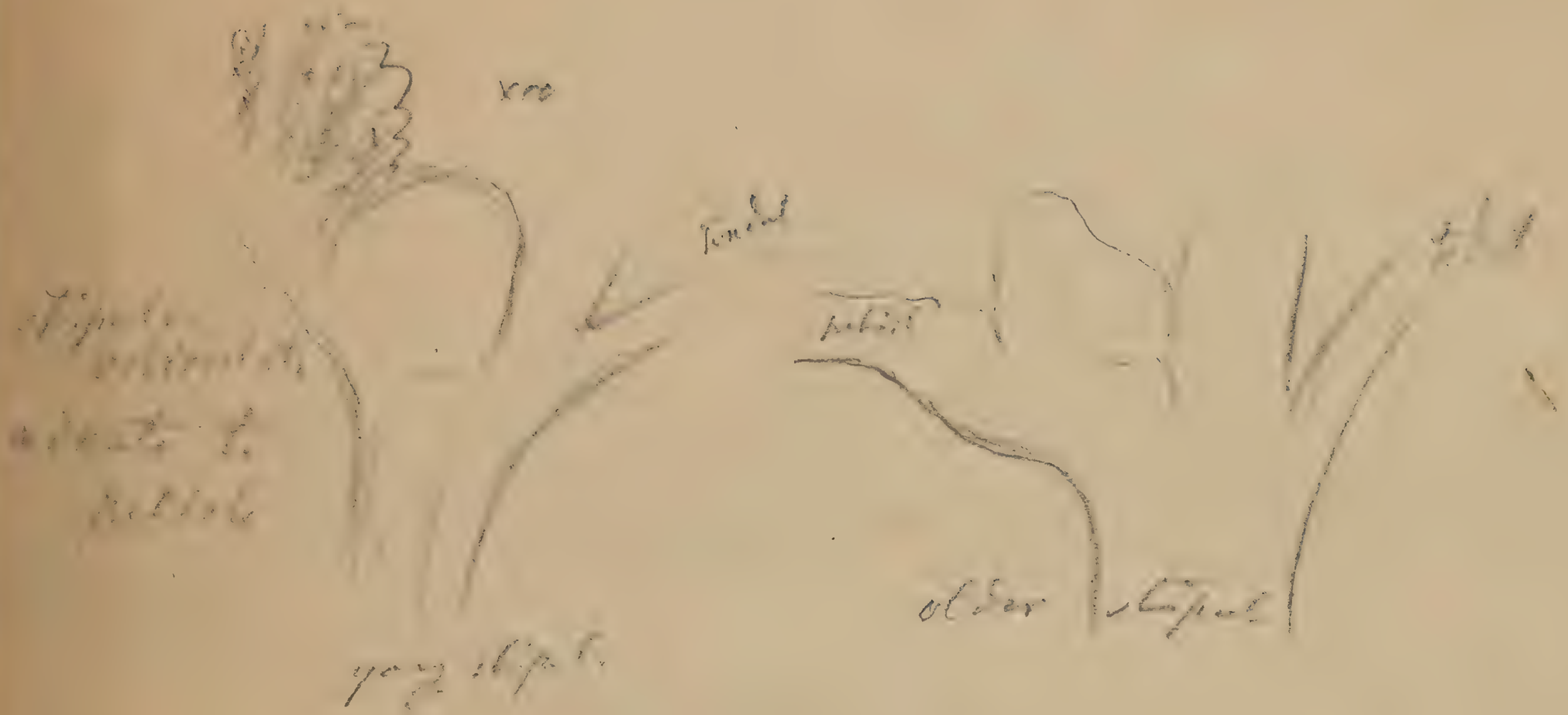

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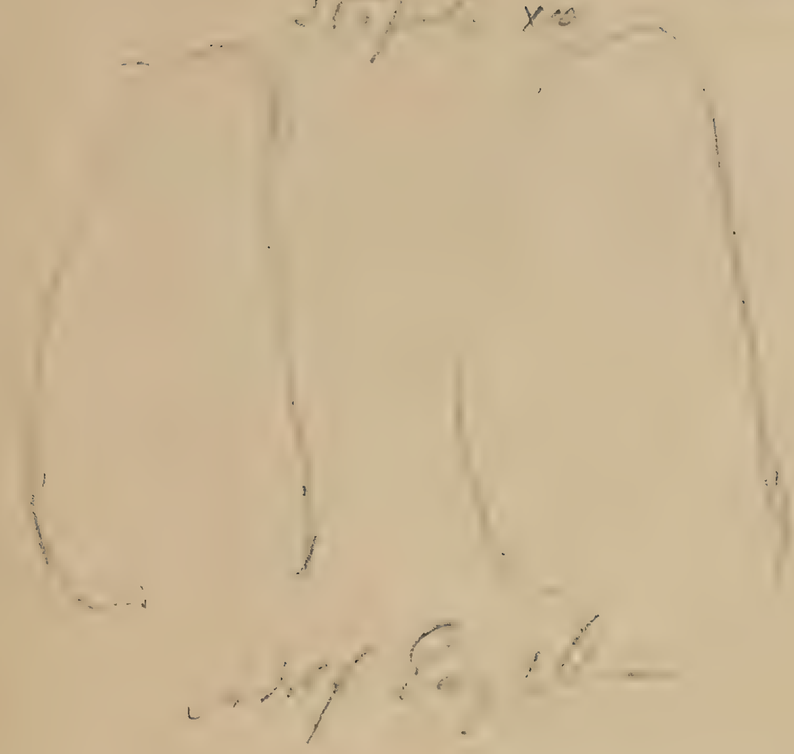

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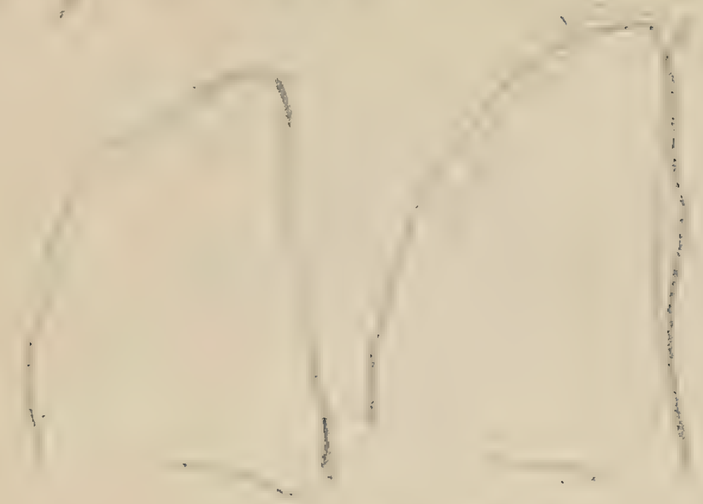

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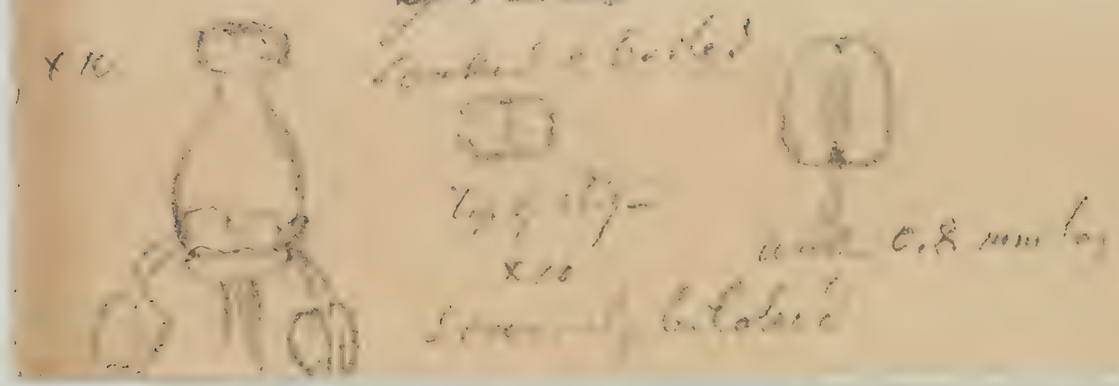
Objective ×10 — Vitis Californica — Zeiss 16 mm

352

Distance
1x66



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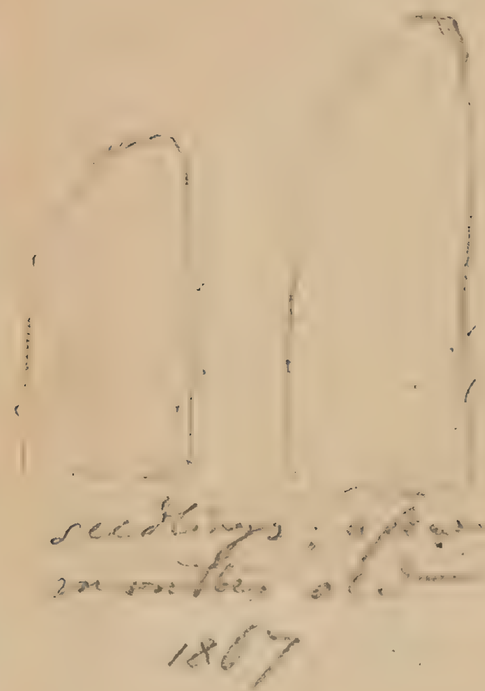

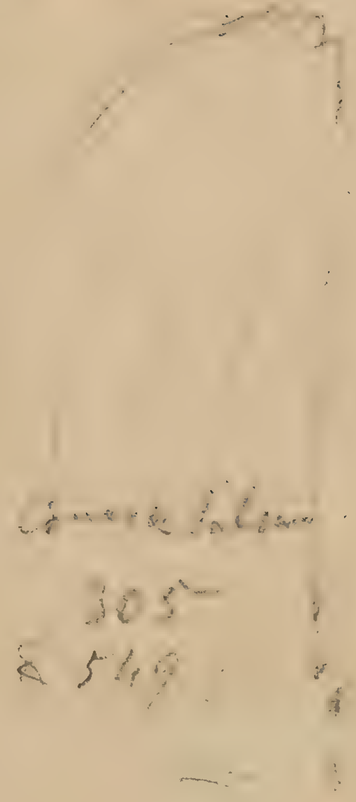

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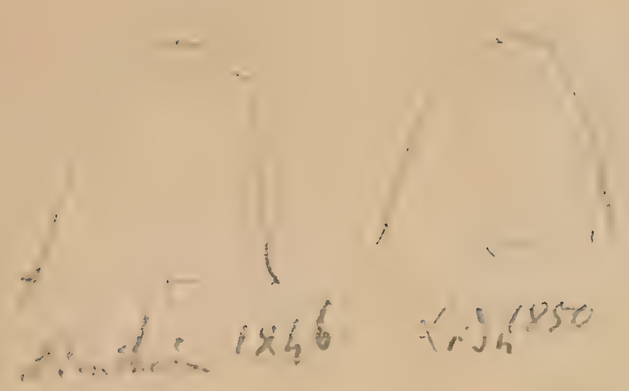
Vitis monticola Buckl. Aug 1908

x 10



Linden 1846 Kr 34 1850

I II III

Ch. Ludwig on the Natural Hybridization

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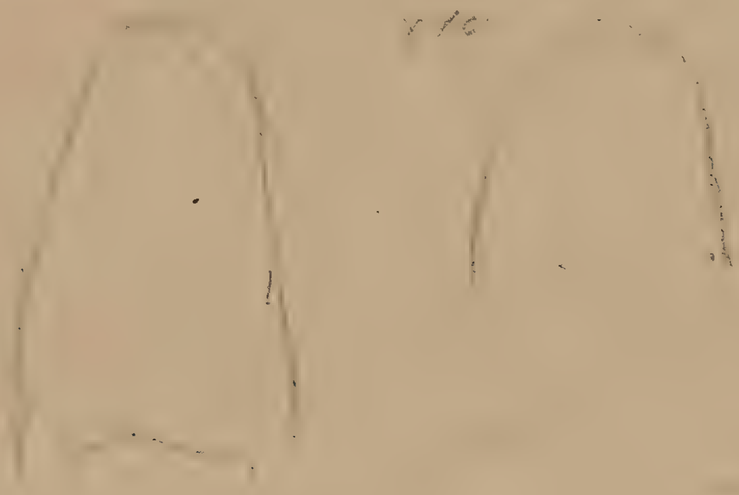
May 31 1878

x 10

x 10

x 10

355



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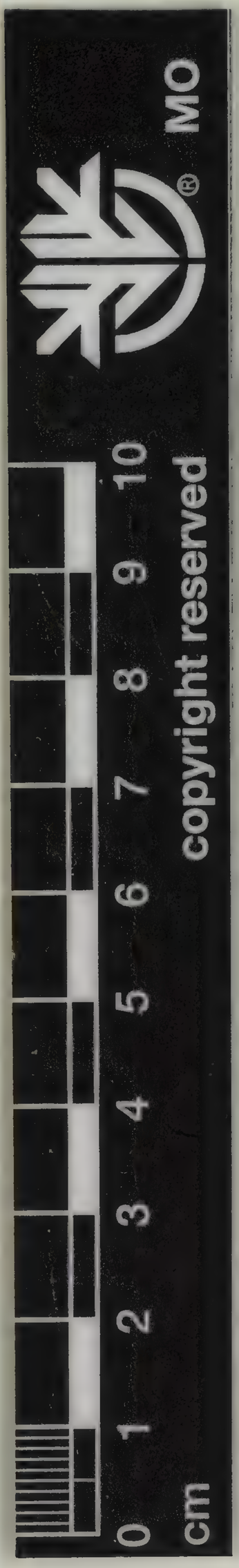

PURE WINES AND LIQUORS FOR MEDICAL USE.

Cor. 5th and Walnut St

WESTBROOK'S PHARMACY

No. 1006 Olive Street.

356

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357

Slightly x 10

Vitis cordifolia
woods, Illinois, June & Chicago Expt

x 10

Dentate leaf

Kentucky

Missouri
1876

very hairy
Chicago Expt

Massachusetts
New York
1869

Stipules
V. Cordifolia
N. Carolina
1876

St Louis
(Missouri)
1844

Expt
1866

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Cor. 5th
and
Walnut St

MASTBROOK'S PHARMACY

No.
1006 Olive
Street.

PURE WINES AND LIQUORS FOR MEDICAL USE.

Property of Missouri Botanical Garden
Gift of Lucille Zimmer

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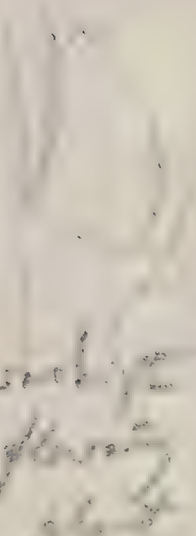

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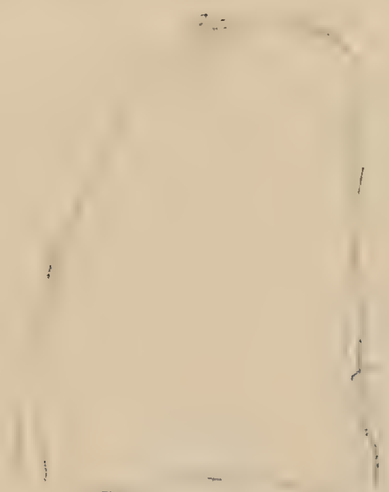

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Henry T. Rohlfing,

APOTHECARY,

No. 2600 Laclede Ave., S. W. Cor. Jefferson Ave.,

ST. LOUIS, MO.

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℞

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GEORGE ENGELMANN PRINTER

Geo. Engelmann, M. D.,

No. 3003 Locust Street.

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Utis

since a few years

all at Paris, and mixed with
the Spanish groups to
give the vine more colored

360

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN HERBARIUM

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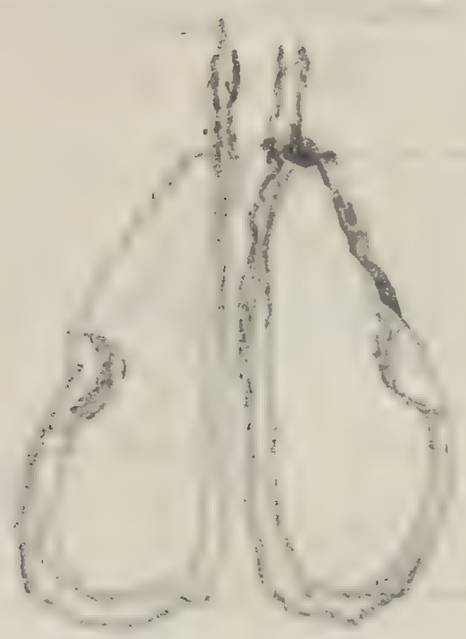

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a darker color; also, if the doors are large, it will look well and help the general effect of the room to treat the panels in the same way. Another very good plan is to paint the doors in an altogether different combination of colors than the balance of the room, but of course it must be a combination that will harmonize with the other woodwork in the room. Take a room with a number of doors in it—a dining-room, for instance, as they generally have more doors than any other room—and treat it in this way, and if you have never seen a room done in this style you will be surprised at the effect the two combinations of color will make. In this class of work the painter should use nothing but the best material made, as it is cheaper in the end than an inferior article, and if he is an artist of any ability and uses nothing but the purest colors, he need never be ashamed of his work; whereas, if he uses impure colors, he will never be able to satisfy himself. As there has been a great quantity of so called cheap colors made and sold by unreliable parties, it behooves the painter who wants to keep up with the times and keep up his reputation as an artist to buy material known to be pure.

We are living in an age of great progress. Especially is this true in regard to art. The public generally are becoming more enlightened, and the different branches of art are gradually assuming their proper places. A few years ago people thought the most important part of an interior decoration was the part that cost the most money. For instance, they would buy a very costly carpet and make it the key to the entire decoration, whereas it is the most inferior part. Anything in the way of a floor covering will do, provided it is dark enough. Color being the principal element in decoration, it stands to reason that the walls, ceiling and woodwork ought to be completed before purchasing anything in the way of carpets or furniture; unless it is a particular suit of furniture that cannot be dispensed with, then, of course, decorate walls to harmonize with the furniture; but where the floor is to be covered with a new carpet, never purchase it until the walls and ceiling are decided upon. J. D.

AMATEUR DECORATION.

ALTHOUGH there is a diversity of opinion regarding the advantages of stone, brick or wood as building material, it matters little, so far as the interior decoration is concerned, as the walls and ceiling in either case require two or more coats of plaster. Of these the first consists of rough, heavy mortar; the last, usually called the "hard finish," a pure white coat, quite smooth and glossy. These coats of plaster, composed as they are of sand, lime, etc., are rapid absorbants of moisture, as is clearly proven by examining such walls, where they have received one or two heavy coats of good paint, and subsequently there has been one of our protracted seasons of damp weather followed by intense cold, the surface will be found coated with frost, which, if a fire is made in the appartments, will run down more or less copiously until the walls become dry.

Now, had there been no paint applied to the plastered surface, this moisture would have been absorbed until the walls were literally soaked, and would consequently have remained damp and unhealthy for perhaps several months.

In view of such a result, it becomes a matter of infinite importance whether, in finishing a dwelling, the walls might not better receive at least two coats of paint, upon which paper-hangings or painted decorations, etc., may be applied. This paint should be of the best quality, as it is but labor lost to spend time in putting on worthless imitations when really first-class paint and zinc can be obtained from well known and reliable manufacturers. Painted walls and ceilings, decorated furniture and embellished wood-work, floors, etc., are costly when put into the hands of a professional house decorator, yet a few simple and clear directions, with a small expenditure of money and time, will enable even a very tyro to produce fair results.

We will commence our work of beautifying by changing the appearance of certain walls papered with execrable specimens of paper-hangings. In order to remove the old paper, make it quite damp by sponging with clean water, and when every inch is peeled off wash or scrub the walls and remove the paste, size or other soil remaining. To easily reach the upper portion of the walls and lay off the frieze, a platform is

361-A

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gradation of color between the dark on the frame and the general color of the wall is more pleasing to the eye and is not such a strong contrast as the dark color will make. Paint the base dark and the moulding at the top of the base light color, the panels of the doors dark, and the stiles light. I have noticed that in many instances the panels are painted light and the stiles dark, which is entirely wrong, as the stile is the most prominent part of the door, and of necessity must receive the most light. But as most of the woodwork now in use is perfectly flat, with the exception of grooves or beads run in them, I would advise the use of three colors. Paint high-lights light color, shadows dark, and in grooves or on beads, use some color that will harmonize well and at the same time make the woodwork look brighter, always being careful to use a receding color in the grooves and an advancing or stationary color on the beads. I have noticed quite frequently in rooms finished in natural wood where the finisher has colored the beads in the face of the window and door frames black, which is wrong, and should not be allowed under any circumstances. Where the natural wood finish is used no paint should be put upon it, as there is no finish for the inside of houses more beautiful; it will harmonize with any decoration used on the walls.

In rooms where the woodwork is painted and the decoration of the walls is to be changed, by all means change the color of the woodwork, as that is an important item. I would advise where the walls look well enough and you would like to have a different appearance given to your room without much expense, to change the color of the woodwork. If it has been painted to match the walls, try contrasting colors and you will be agreeably surprised at the difference a little paint, judiciously applied, will make. Another thing in favor of painting often is, the paint is less apt to scale or chip off. I have seen woodwork in white that had stood for ten or twelve years without being painted, and it was almost impossible to make new paint adhere to the old; in such cases the old paint should be removed before applying the new. If woodwork is painted every two or three years, and done properly, it will not scale or chip off. In painting over any glossy or varnished surface, be sure it is entirely removed before putting on any new paint; also use very little oil in the paint that is to be put on an old painted work, as it does not adhere to the old work as well as paint mixed perfectly flat. A very good way to prepare paint for inside work is to mix it with turpentine and then add No. 1 coach varnish for dryer. This gives you what is called an egg-shell gloss, which cannot be distinguished from flat paint except by painters, and also gives a much smoother surface than perfectly flat paint and a better wearing surface. Flat or egg-shell finish is preferable for another reason. Almost all woodwork painted with glossy paint shows hammer and plane marks made by the carpenter, where flat paint is used such marks are not noticeable.

In regard to color, any one with good taste and a little knowledge of colors can make very fair combinations by using the so called tertiary colors—citrine, olive and russet—as they all harmonize well with the primary and secondary colors, and make good combinations.

Black has been used quite frequently for parlors. When lit up with a little gold leaf it makes a very good color for a room furnished with a variety of furniture of different colors, as it will harmonize to some extent with all colors. Although artists prefer not to use black unless absolutely necessary, yet it often makes a very fine looking room, but should be used nowhere except in a parlor. Sitting-rooms look well in olives and olive browns. A very good combination, provided it harmonizes with walls and furniture, is two shades of olive, and beads, if such there be, in citrine color. Dining-rooms look best in warm olives and browns, red on beads or lines of same color. Wherever vermilion is used it should be lowered somewhat in tone, as dull colors make a more pleasing harmony than clear bright colors. Chambers should be done in lighter colors generally than ordinary living rooms. Blue rooms are generally painted blue, with the beads of the same color darkened somewhat. Blue woodwork is bad enough in light tints, without making it more so by darkening the beads. If the work must be blue, make the beads a warm gray and the room will look a hundred per cent. better. Halls, the walls of which are of a dark color, will look well painted a bright maroon or crimson. In rooms where the doors are set in deep frames, a very good plan is to decorate the plain inside surface of the frame with a stencil pattern of simple but good design in

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362

Viti

1883

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Bischof Lehrbuch 1834 vol 1. p. 441.

Samenoberhaut } 3 integuments of seed proper
Samenschale } = both coats of the ovule
Kernhaut } = coat proper of the ~~ovule~~ nucleus

p. 412 Samenschale mostly forming 2 more or less distinct layers - consisting of the external & internal coat of the ovulum.

p. 413 Vitis has the external coat of the testa (Samenschale) fleshy, cells full of crystals; the inner layers.

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JONES & LEITCH,
DRUGGISTS,
Corner Fifth and Market Streets, St. Louis, Mo.

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